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EXAMINER

NGUYEN, TRAN N

ART UNIT PAPER NUMBER

2834

DATE MAILED: 07/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/683,018

Applicant(s)

LIANG ET AL.

Examiner

Tamai, Karl

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Terminal Disclaimer***

1. The terminal disclaimer filed on 6/11/03 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of Patent Number 6,445,095 has been reviewed and is accepted. The terminal disclaimer has been recorded.

### ***Allowable Subject Matter***

2. The indicated allowability of claims 1-15 is withdrawn in view of the newly discovered references to Macha et al. (US 3155856) and Eis et al. (US 3075107). Rejections based on the newly cited references follow.

### ***Priority***

3. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 120 as follows:

The current status of all nonprovisional parent applications referenced should be included.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 8 and 9 are is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 8 and 9 are vague and indefinite because it is

Art Unit: 2834

unclear if it is a method of making limitation or a structural limitation. The preamble indicates the invention is an electrical machine apparatus, but the claim limitations "press fit" of claim 8 and "shrink fitted" of claim 9 are method of making limitations. In order to advance prosecution on the merits, the examiner has considered these claims as "product by process claims". As a product by a process claim "even though the product-by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of the product does not depend on its method of production. If the product in the product by process claim is the same or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process". *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966(Fed. Cir. 1985).

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

Art Unit: 2834

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-3, 7, 8, 9, and 12 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Macha et al. (Macha)(US 3155856). Macha teaches a housing 12 with a stator core 68 disposed within the housing and having at least one end-turn 72 extending beyond an end of the stator core, the end-turn being potted with a potting material (resin with aluminum filler). Macha teaches a rotor 36 rotatably positioned within the stator core 68. Macha teaches a non-laminated thermal conductor ring 76 having a thermal conductivity that is greater (copper has a higher thermal conductivity than the resin/alumina potting material) than a thermal conductivity of the potting material disposed between the potted stator core end-turn and the housing for conducting heat from the stator core end-turn to the housing. The housing 12 including a passage 11 for cooling fluid. In regards to claim 8, Macha teaches the conductor ring 76 engages the inners surface of the housing 12, which is inherently press fit. The method of making limitations: press fit and shrink fit are not germane to the patentability of the apparatus.

9. Claims 1, 3, and 4 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Eis et al. (Eis)(US 3075107). Eis teaches a housing 46 with a stator core 12 disposed within the housing and having at least one end-turn 22 extending beyond

Art Unit: 2834

an end of the stator core, the end-turn being potted with a potting material (resin or resin with copper filler). Eis teaches a rotor 28 rotatably positioned within the stator core 12. Eis teaches a chill ring 58 including a layer of non-laminated aluminum. The thermal conductivity of the chill ring being greater than a thermal conductivity of the potting material (resin or resin based) disposed between the potted stator core end-turn and the housing for conducting heat from the stator core end-turn to the housing. Eis teaches the equivalence of the chill ring being wire, solid, split rings or laminations (Col. 5, lines 32-36).

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Macha et al. (Macha)(US 3155856) and Kinoshita et al. (Kinoshita)(US 5789833).

Macha teaches every aspect of the invention except the heat conductor ring being aluminum or an aluminum alloy. Kinoshita teaches the equivalence of copper, aluminum or an aluminum alloy for thermal conductors in a dyamo electric machine. It would have been obvious to a person of ordinary skill in the art construct the machine of Macha with aluminum or aluminum alloy heat conductor rings to provide good heat transfer in the machine, as taught by Kinoshita, and because Macha suggests that any material with thermal good conductivity can be used.

12. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Macha et al. (Macha)(US 3155856) and Jefferies (US 4054809). Macha teaches every aspect of the invention except the heat conductor ring being non-metallic. Jefferies teaches the resin and wire end turn support to allow for temperature and flux flow to increase machine efficiency. It would have been obvious to a person of ordinary skill in the art construct the machine of Macha with heat ring being resin to allow for temperature and flux flow to increase machine efficiency, as taught by Jefferies.

13. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Macha et al. (Macha)(US 3155856). Macha teaches every aspect of the invention except the thermal conductivity of the heat conductor ring being at least 90 btu/hr or more than 330 times the potting material. It would have been obvious to a person of ordinary skill in the art construct the machine of Macha with the thermal conductivity of the heat conductor ring being at least 90 btu/hr or more than 300 times the potting material to provide good heat transfer in the machine, and because it has been held to be within the ordinary skill in the art to choose that material based on suitability of use (see *In re Leshin*, 125 USPQ 416).

14. Claim 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Macha et al. (Macha)(US 3155856) and Robinson et al. (Robinson)(US 3525889). Macha teaches every aspect of the invention except the potting material being flexible.

Art Unit: 2834

Robinson teaches the material being elastic/flexible to resist stress. It would have been obvious to a person of ordinary skill in the art construct the machine of Macha with potting material being elastic/flexible to resist stress as taught by Robinson.

15. Claim 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Macha et al. (Macha)(US 3155856) and Kusumoto et al. (Kusumoto)(US 5576584). Macha and Robinson teach every aspect of the invention except the potting material being viscoelastic. Kusumoto teaches the viscoelastic material to pot the winding in the stator slots. It would have been obvious to a person of ordinary skill in the art construct the machine of Macha with potting material being viscoelastic to absorb machine vibrations, as taught by Kusumoto.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl I.E. Tamai whose telephone number is (703) 305-7066. The examiner can be normally contacted on Monday through Friday from 8:00 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Nestor Ramirez, can be reached at (703) 308-1371. The facsimile number for the Group is (703) 305-3432. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Karl I Tamai for Tran Nguyen  
PRIMARY PATENT EXAMINER  
July 15, 2003

  
KARL TAMAI  
PRIMARY EXAMINER